

Two Tank Direct Thermal Storage System

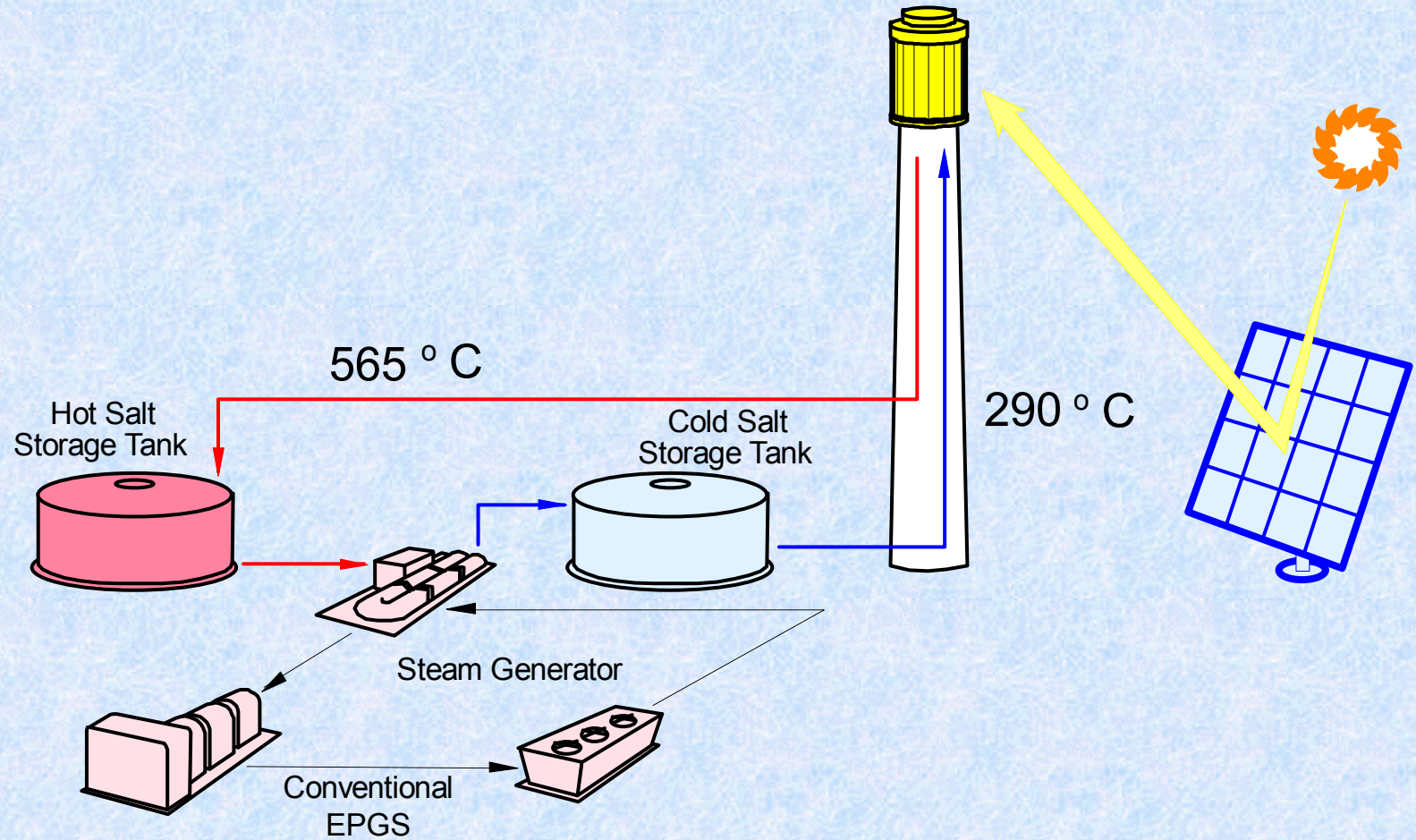
Solar Two and Solar Tres Central Receiver Power Plants

Bruce Kelly

Nexant, Inc.

A Bechtel-Affiliated Company
San Francisco, California

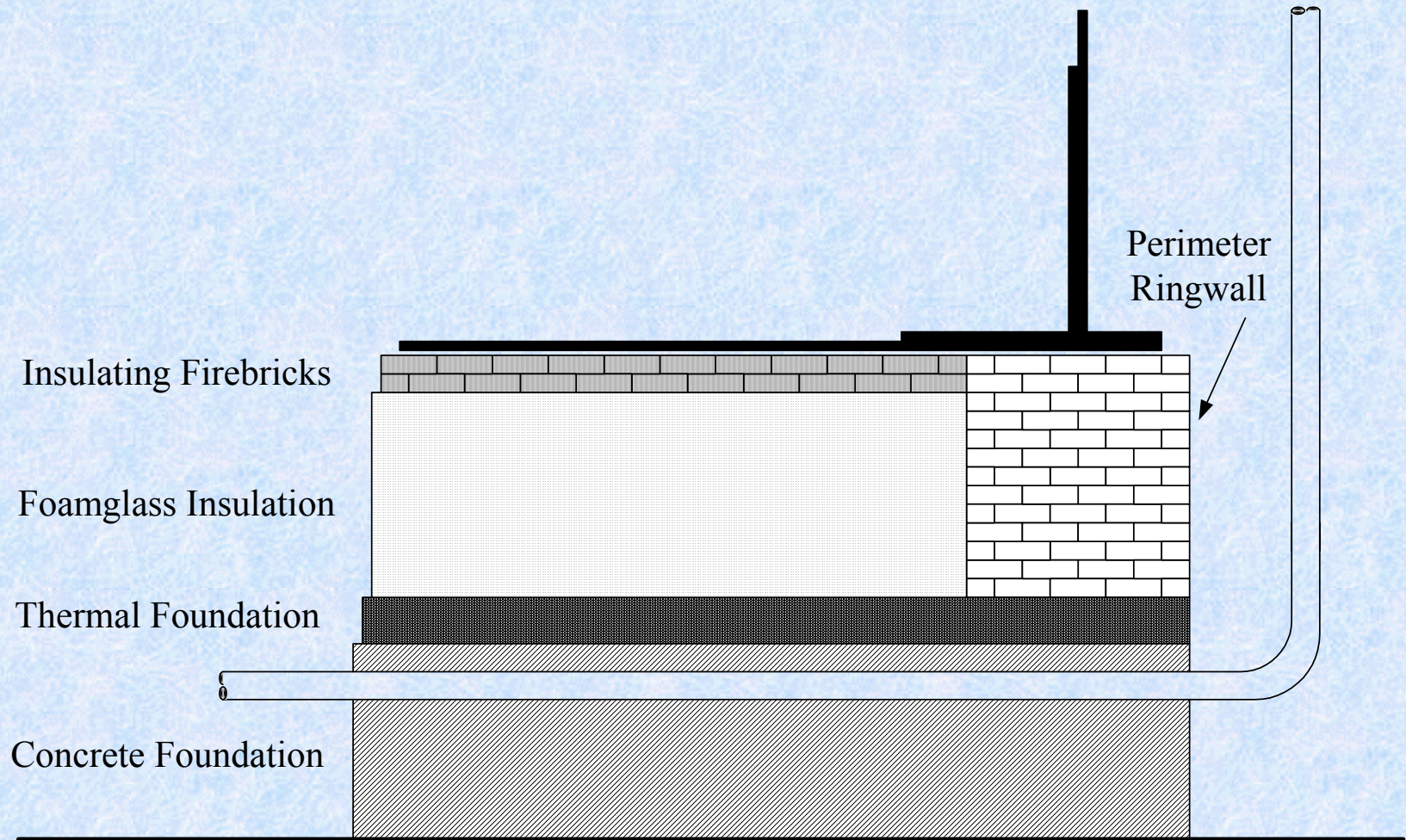
Direct Thermal Storage



Solar Two Project

- 3 hour, 105 MWht system
- Hot tank: 565 °C; 11.6 m diameter; 8.5 m height; ASTM A 240, Grade 316N stainless steel; largest tank built at this temperature
- Cold tank: 288 °C; 11.6 m diameter; 7.9 m height; ASTM A 516, Grade 70 carbon steel
- Hot tank survived several vacuum/pressure excursions well above design values

Thermal Storage Tank Foundation



Solar Tres Project

- 16 hour, 588 MWht system
- Hot tank: 565 °C; 18.9 m diameter; 12.5 m height; ASTM A 240, Grade 347 stainless steel; would be the largest tank built at this temperature; postweld heat treatment required
- Cold tank: 288 °C; 18.0 m diameter; 12.5 m height; ASTM A 516, Grade 70 carbon steel
- Budgetary quotes received from CBI